NON-PUBLIC?: N
ACCESSION #: 9209240261
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Oyster Creek Unit 1 PAGE: 1 OF 03

DOCKET NUMBER: 05000219

TITLE: Reactor Scram on Low Water Level Due to Feedwater Control Component Failure
EVENT DATE: 08/22/92 LER #: 92-009-00 REPORT DATE: 09/15/92

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Lynne W. Munzing, Operations TELEPHONE: (609) 971-4389
Engineer

COMPONENT FAILURE DESCRIPTION:
CAUSE: B SYSTEM: SJ COMPONENT: AMP MANUFACTURER: G080
REPORTABLE NPRDS: Y

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

A reactor low water level scram from full power occurred on August 22, 1992, at 1255 hours. A low-low water level condition occurred immediately after the scram, which resulted in the actuation of several engineered safety features: Core Spray system initiation, Diesel Generator start, primary containment isolation, main steam isolation, Isolation Condenser initiation, and Standby Gas Treatment system initiation. Once the Main Steam Isolation Valves were closed, reactor water level was restored using the Feedwater system. The reactor was cooled using the Isolation Condensers. The cause of the event was a failed proportional amplifier in the Feedwater Control system, which caused the system to sense a large decrease in steam removed from the reactor vessel. The system compensated for the apparent steam flow decrease by rapidly reducing Feedwater flow, which caused the low water level and scram. The safety significance of the event is considered

minimal. The failed proportional amplifier was replaced and the plant was restarted. The Feedwater Control system is scheduled to be replaced in the upcoming refueling outage.

END OF ABSTRACT

Date of Occurrence

The event occurred on August 22, 1992, at 1255 hours.

Identification of Occurrence

A reactor low water level scram and subsequent engineered safety feature system actuations from a low-low level condition occurred. This is considered reportable in accordance with 10 CFR 50.73(a)(2)(iv).

Conditions Prior to Occurrence

The plant was operating at full power.

Description of Occurrence

The reactor was operating at full power with a generator output of 635 megawatts electric. The Reactor Level Hi/Lo alarm was received at 1255 hours. It was followed immediately by Reactor Low Level alarms and actuation of both Reactor Protection Systems (EIIS-JC), which in turn caused a full reactor scram. A low-low reactor water level followed the scram and resulted in Primary Containment (EIIS-NH) isolation, Main Steam (EIIS-SB)isolation, Core Spray System (EIIS-BM) initiation, Isolation Condenser (EIIS-BL) actuation, and Emergency Diesel Generator (EIIS-EK) start. Core Spray did not inject to the reactor since reactor pressure was greater than 350 psig, and the Diesel Generators did not assume load.

The Primary Containment isolation also caused a Standby Gas Treatment System (EIIS-BH) initiation.

After the Main Steam Isolation Valves isolated on the low-low level signal, further inventory loss was prevented and the Feedwater System (EIIS-SJ) was used to recover reactor water level. The reactor was cooled using the Isolation Condensers.

Apparent Cause of Occurrence

The event was caused by the failure of a proportional amplifier (CFI-AMP)(signal repeater), ID23H, in the steam pressure compensation portion of the steam flow signal which is input to the Feedwater Control system. The Feedwater Control system sensed this as a large decrease in steam removed from the reactor vessel and compensated for this by causing a rapid decrease in feedwater flow. A rapid reduction in reactor vessel level followed, which caused the scram.

Analysis of Occurrence and Safety Significance

The reactor low water level scram setting of 137 inches above the top of active fuel (TAF) has been established to ensure that the reactor is not operated at a water level below that for which the fuel cladding integrity safety limit is applicable. In this event, a reduction in feedwater flow caused a reactor scram at the level specified. The reduction in Feedwater flow coupled with the void collapse from the reactor scram result
d in the level dropping to the low-low reactor level
setpoint. During this event all Engineered Safety Features operated as designed, which maintained sufficient water level to ensure adequate margin to the fuel cladding integrity safety limit. Based upon the proper response of the plant to the loss of feedwater, the significance of this event is considered minimal.

Corrective Action

The failed proportional amplifier was replaced and the plant was restarted. The Feedwater Control System is scheduled to be replaced in the upcoming refueling outage.

Similar Events

LER 91-005 "Automatic Reactor Scram Due to Loss of Feedwater Flow Caused by a Grounded Condensate Pump Motor"

LER 85-006 "Reactor Scram due to Low Water Level" Nuclear

ATTACHMENT 1 TO 9209240261 PAGE 1 OF 1

GPU Nuclear GPU Nuclear Corporation
Post Office Box 388
Route 9 South
Forked River, New Jersey 08731-0388
609 971-4000
Writer's Direct Dial Number:

C321-92-2255
September 15, 1992

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Dear Sir:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Licensee Event Report

This letter forwards one (1) copy of Licensee Event Report 92-009.

Sincerely,

John J. Barton
Vice President and Director
Oyster Creek

JJB/TB:jc
Enclosure

cc: Administrator, Region 1
Senior NRC Resident Inspector
Oyster Creek NRC Project Manager

(LER-COVLTRS)

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